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EXAMINER

AGGARWAL, YOGESH K

ART UNIT PAPER NUMBER

2615

DATE MAILED: 04/21/2004

687

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/639,041

Applicant(s)

KOSHIZUKA ET AL.

Examiner

Yogesh K Aggarwal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/12/04 (Telephonic Interview).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,7,11 and 13-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,8 and 12 is/are rejected.
- 7) ☒ Claim(s) 3,5 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2,3,5.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

First Species: figures 1-3

Second Species: figures 4-5

Third Species: figures 6-8

Fourth Species: figures 9-10

Fifth Species: figures 11-12

Sixth Species: figures 13-15

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there is no generic claim.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

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Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

2. Claims 2, 4, 7, 11, 13-18 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in a telephonic interview dated 04/12/2004. Specie 1 was elected (Claims 1, 3, 5, 6, 8, 9, 10, 12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 6, 8, 9, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted prior art (figures 17, 18A-18D) in view of Miyata et al. (JP Patent # 358031669A) in further view of Nagata et al. (US Patent # 5,162,644).

[Claim 1]

Applicant's Admitted prior art (figures 17, 18A-18D) teaches the following:

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A photosensor system (figure 17) comprising:

a photosensor array (specification, Page 4 lines 2-5, figure 17: 100) including a plurality of photosensors (figure 17: 10) arranged two-dimensionally;

initializing means (figure 17: 111) for applying a reset pulse signal (figures 17 and 18: Φ_{Ti}) to each of the photosensors of the photosensor array (figure 17: 100), thereby initializing the photosensors (Page 5 lines 5-23, figure 18A);

signal readout means (figure 17: 113) for applying a pre-charge pulse signal (Φ_{pg}) to each of the photosensors of the photosensor array (Page 5 lines 24-27, Page 6 lines 1-4, figure 18C), applying a readout pulse signal (figure 17: Φ_{B1}) to each of the photosensors, and receiving a voltage output (figure 17: $VD1-VDm$) from each of the photosensors (Page 6 lines 4-6, figure 18B). Applicant's Admitted Prior art fails to teach effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the initializing means and the signal readout means. However Miyata et al. teaches that it is well known and used in the art to have an effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the initializing means (Constitution, lines 1-7).

Therefore taking the combined teachings of Applicant's admitted prior art and Miyata it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the initializing means. Doing so would prevent a flicker

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phenomenon from being produced, by preventing a reset potential of a photoconductor from changing at each pixel as taught in Miyata (Abstract).

Applicant's Admitted Prior art in view of Miyata fails to teach effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the signal readout means. However Nagata teaches that it is well known and used in the art to have an effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the readout means (col. 11 lines 8-21).

Therefore taking the combined teachings of Applicant's admitted prior art, Miyata in further view of Nagata it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have effective voltage adjusting means for applying, to each of the photosensors, correction signals for correcting, to optimal values, effective voltages of the signals applied to each of the photosensors by the readout means. Doing so would correct shading and provide an output indicative of the reflectance of the object document as taught in Nagata (col. 11 lines 15-21).

[Claim 6]

The photosensor system according to claim 1, wherein each of signals, applied to each of the photosensors by the initializing means and by the signal readout means, has a pair of high-level and low-level voltages (Admitted Prior art, figures 18A and 18B) and the effective voltage adjusting means also has a high-level and low-level voltages (Miyata et al. Abstract)[In the

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constitution of the abstract Miyata et al. discloses that the reset potential can be corrected by a high or low level voltage of a pulse applied to the transparent electrode].

[Claim 8]

The photosensor system according to claim 1, wherein:

each of the photosensors (Admitted Prior art, figure 16A: 10) has a double-gate structure (Admitted Prior art, figure 16A: 21 and 22) including a source electrode (Admitted Prior art, figure 16A: 12) and a drain electrode (Admitted Prior art, figure 16A: 13) formed with a semiconductor layer as a channel region (Admitted Prior art, figure 16A: 11) interposed therebetween, and a top gate electrode (Admitted Prior art, figure 16A: 21) and a bottom gate electrode (Admitted Prior art, figure 16A: 22) formed above and a below the channel region with respective insulating films (Admitted Prior art, figure 16A: 15 and 16) interposed therebetween; and

the initializing means initializes each of the photosensors by applying the reset pulse signal to the top gate electrode of each of the photosensors (Admitted Prior art, Page 5 lines 5-23, figure 18A), and the signal readout means applies the readout pulse signal to the bottom gate electrode of each of the photosensors, thereby outputting, as the output voltage (Admitted Prior art, Page 6 lines 4-6, figure 18B), a voltage corresponding to charge accumulated in the channel region during a charge accumulating period ranging from termination of the initialization to application of the readout pulse signal (Admitted Prior art, Page 5 lines 15-27, Page 6 lines 1-6, figures 18B).

[Claims 9 and 12]

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These are method claims corresponding to the functional steps of apparatus claims 1 and 8 respectively. Therefore claims 9 and 12 have been analyzed and rejected based upon claims 1 and 8 respectively.

Allowable Subject Matter

5. Claims 3, 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

a) As for claim 3, the prior art fails to teach or fairly suggest wherein the correction signals applied by the effective voltage adjusting means set, at 0, v, average effective voltages of the signals applied to the photosensors by the initializing means and the signal readout means

b) As for claim 5, the prior art fails to teach or fairly suggest wherein the voltage waveforms of the correction signals applied by the effective voltage adjusting means have time integral values of polarities opposite to those of time integral values of voltage waveforms of the signals applied to each of the photosensors by the initializing means and the signal readout means.

c) Claim 10 is a method claim corresponding to apparatus claim 3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5: 30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary examiner, Vu Le can be reached (703) 308-6613. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

YKA
April 13, 2004


VU LE
PRIMARY EXAMINER